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1 Research Interests

Database Systems, Big Data, Parallel and Distributed Systems, Storage Systems

2 Employment History

12/2019–	Postdoctoral Associate , Department of Electrical and Computer Engineering, Virginia Tech	Blacksburg, VA
03/2019-11/2019	Postdoctoral Researcher , Convergence Research Institute, College of Software, Sungkyunkwan University	Suwon, Korea

3 Education

Ph.D.	Computer Science and Engineering Advisor: Dr. Beomseok Nam and Dr. Sam H. Noh Dissertation: Redesigning Transaction Processing Systems for Non-Volatile Memory Ulsan National Institute of Science and Technology(UNIST), Ulsan, Korea	03/2013 – 02/2019
B.S.	Electrical and Computer Engineering Ulsan National Institute of Science and Technology(UNIST), Ulsan, Korea	03/2009– 02/2013

4 Research

4.1 Publication

4.1.1 Conference Publications

- PACTree: A High Performance Persistent Range Index Using PAC Guidelines.**
Wook-Hee Kim, R. Madhava Krishnan, Xinwei Fu, Sanidhya Kashyap, and Changwoo Min.
In Proceedings of the 28th ACM Symposium on Operating Systems Principles (ACM SOSP 2021).
- Witcher: Systematic Crash Consistency Testing for Non-Volatile Memory Key-Value Stores.**
Xinwei Fu, Wook-Hee Kim, Ajay Paddayuru Shreepathi, Mohannad Ismail, Sunny Wadkar, Dongyoon Lee, and Changwoo Min.
In Proceedings of the 28th ACM Symposium on Operating Systems Principles (ACM SOSP 2021).
- TIPS: Making Volatile Index Structures Persistent with DRAM-NVMM Tiering.**
R. Madhava Krishnan, Wook-Hee Kim, Xinwei Fu, Sumit Kumar Monga, Hee Won Lee, Minsung Jang, Ajit Mathew, and Changwoo Min.
In Proceedings of 2021 USENIX Annual Technical Conference (USENIX ATC 2021).
- POSEIDON: Safe, Fast and Scalable Persistent Memory Allocator.**
Anthony Demeri, Wook-Hee Kim, R. Madhava Krishnan, Jaeho Kim, Mohannad Ismail, and Changwoo Min.
In Proceedings of the 21st ACM/IFIP International Middleware Conference (ACM/IFIP Middleware 2020).
- Doubleheader Logging: Eliminating Journal Write Overhead for Mobile DBMS.**
Sehyeon Oh, Wook-Hee Kim, Jihye Seo, Hyeonho Song, Sam H. Noh, and Beomseok Nam.
In Proceedings of 36th IEEE International Conference on Data Engineering (IEEE ICDE 2020).

6. **Endurable Transient Inconsistency in Byte-Addressable Persistent B+-Tree.**
Deukyeon Hwang*, **Wook-Hee Kim***, Youjip Won, and Beomseok Nam.
In Proceedings of *16th USENIX Conference on File and Storage Technologies (USENIX FAST 2018)*.
***Co-first author**
7. **Failure-Atomic Slotted Paging for Persistent Memory.**
Jihye Seo, **Wook-Hee Kim**, Woongki Baek, Beomseok Nam, and Sam H. Noh.
In Proceedings of *22nd International Conference on Architectural Support for Programming Languages and Operating Systems (ACM ASPLOS 2017)*.
8. **NVWAL: Exploiting NVRAM in Write-Ahead Logging.**
Wook-Hee Kim, Jinwoong Kim, Woongki Baek, Beomseok Nam, and Youjip Won.
In Proceedings of *21st International Conference on Architectural Support for Programming Languages and Operating Systems (ACM ASPLOS 2016)*.
9. **WALDIO: Eliminating the Filesystem Journaling in Resolving the Journaling of Journal Anomaly.**
Wongun Lee, Keonwoo Lee, Hankeun Son, **Wook-Hee Kim**, Beomseok Nam, and Youjip Won.
In Proceedings of *2015 USENIX Annual Technical Conference (USENIX ATC 2015)*.
10. **Resolving Journaling of Journal Anomaly in Android I/O: Multi-Version B-tree with Lazy Split.**
Wook-Hee Kim, Beomseok Nam, Dongil Park, and Youjip Won.
In Proceedings of *12th USENIX Conference on File and Storage Technologies (USENIX FAST 2014)*.

4.1.2 Workshop Publication

1. **POSEIDON: Safe, Fast and Scalable Persistent Memory Allocator.**
Wook-Hee Kim, Anthony Demeri, R. Madhava Krishnan, Jaeho Kim, Mohannad Ismail, and Changwoo Min.
12th Annual Non-Volatile Memories Workshop (NVMW 2021).
2. **Making Volatile Index Structures Persistent using TIPS.**
R. Madhava Krishnan, **Wook-Hee Kim**, Hee Won Lee, Minsung Jang, Sumit Kumar Monga, Ajit Mathew, and Changwoo Min.
12th Annual Non-Volatile Memories Workshop (NVMW 2021).
3. **FAST and FAIR B+-Tree for Byte-Addressable Persistent Memory.**
Wook-Hee Kim, Deukyeon Hwang, Jonghyeon Yoo, Youjip Won, and Beomseok Nam.
10th Annual Non-Volatile Memories Workshop (NVMW 2019).

4.1.3 Journal Publications

1. **clfB-tree: Cacheline Friendly Persistent B-tree for NVRAM.**
Wook-Hee Kim, Jihye Seo, Jinwoong Kim, and Beomseok Nam.
ACM Transaction on Storage, Special Issue on NVM and Storage.
February 2018.

4.1.4 Non Refereed Publication

1. **WITCHER : Detecting Crash Consistency Bugs in Non-volatile Memory Programs.**
Xinwei Fu, **Wook-Hee Kim**, Ajay Paddayuru Shreepathi, Mohannad Ismail, Sunny Wadkar, Changwoo Min, and Dongyoon Lee.
arXiv:2012.06086.
December 2020.

4.1.5 Posters

1. **clfB-tree: Cache Line Friendly Persistent B-tree.**
Wook-Hee Kim, Jihye Seo, Youjip Won, and Beomseok Nam.
2016 USENIX Annual Technical Conference (USENIX ATC 2016).

2. | **DEMA: Dynamic Clustering of Spatio-Temporal Dataset to Improve Indexing Performance.**
Wook-Hee Kim, Supervisor: Beomseok Nam.
ACM SIGMOD Undergraduate Research Poster Competition, Athens, Greece, 2011. (SIGMOD 2011 Undergraduate Research Poster Competition).

4.2 Journal Reviewing Activities

1. | Journal Reviewer, *ACM Transactions on Storage (TOS)*. 2021, 2020

5 Honors and Awards

1. | **Postdoctoral Fellowship**
National Research Foundation of Korea (NRF) 2021
2. | **PhD Fellowship**
NAVER 2016

6 References

Available upon request